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F. URGENTLY REQUIRED

ASH GROVE CEMENT CO. INC.

SEATTLE, WA 98134

Inter-Office Memorandum

March 17, 1990

Date

Nate Fernow

Ken Rone

To Dick Cooke

From

Copies to Bob Monroe - S&M&G

Subject Plant Run Off

Steve Sheridan

*Cooke approved this
scheme SEMTE, with
report to, with
site specific design.*

3/22/90

The objective of this study was to determine the most cost efficient means to divert all plant runoff, presently going to the settling pond, to the main sewer on East Marginal Way. The solution begs for a clean paper approach. Our encumbrances in the way of concrete, underground utilities and rail lines make a "clean" solution impossible but our thoughts are offered below to document things that are known to be true.

The East Marginal Way sewer system is a divided system. The storm water line is located only 5' below grade and discharges directly to the Duwamish River near the new Lafarge Terminal. Permits to connect to this with a side sewer are simple to obtain, however, pretreatment will be required for our truck wash water and may also require some kind of additional permit or administrative controls. There may be a filing fee, but we are already paying the privilege of discharging our storm run off.

The least disruptive path for a side sewer is along our north property line. A south property line configuration is prevented by the fence at Stoneway and a central location would require extensive concrete removal.

The relatively shallow depth of the sewer at the street would require a centrally located lift station if any gravity collection is to be obtained. A lift station at a depth of say -10 ft. (5' below the sewer) would provide the opportunity to achieve some gravity drainage. A lift station closer to the sewer would reduce pumping losses, but further away (near the center of our lot) would access more of the area by gravity. Keep in mind that approximately 1/4 of our lot is presently collected and lifted to the pond. This is roughly the northeast quadrant. The lift station for that area is not of sufficient capacity to handle a 25 year rain event. The southern half of our property had a gravity system draining to the pond but much of that has been lost during demolition.

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Three locations for a caisson type lift station were considered:

At the present settling pond at W4610/S1640 Advantages: the present gravity and forced systems for 75% of our lot feed to that area. Disadvantage: Excessive distance from the sewer requiring more power to pump as well as increasing the total piping by retracing the direction of collection.

Near the raw mill tunnel W4035 /S1265 Advantages: Relatively low grade (+8.5' USGS datum) and central location. North property line can be accessed via raw mill tunnel without tearing up concrete.

Between the wash house and the electric shop at W3620/S1110 Advantages: Lowest plant grade (+7.5' USGS datum) and would solve serious flooding problem in this area not presently served with an adequate storm system. Closest to north property line. Disadvantages: Located within Northeast quadrant and would allow little gravity drainage from south half of property.

The first option is seen as too costly. The third option is appealing because it solves the flooding problem. However, because gravity feed is not feasible to this location, a sizable lift station must be installed in the southern half anyway, duplicating our equipment needs. Therefore we suggest the second option connecting to a side sewer along our north property line via the raw mill tunnel. A mini lift station is proposed for the W3620/S1110 location to take care of the flooding problem, this connected directly to the north side sewer. The present lift station servicing the northeast quadrant would intercept the proposed line (on it's discharge side) at the raw mill tunnel freeing the (new) main station from that capacity.

Finally, other mini stations may be required to drain the northwest quadrant and other areas too far from the main station to drain by gravity.

*DISCUSSED 3/21: R. COOKE/K. ROUSE SEND TRUCK UNIT
WATER TO STONEWAY VIA CEMENT CONCRETE LINE.
RICK @ STONEWAY SAYS O.K.
3/22 COOKE SAYS THIS @ SHOULD BE PURSUED.*